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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,992	09/29/2003	Edward Harris Tegge JR.	GCSD-1421 (51342)	2823

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ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A.
1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE
P.O. BOX 3791
ORLANDO, FL 32802-3791

EXAMINER

SINGH, DALZID E

ART UNIT	PAPER NUMBER
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2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/673,992

Applicant(s)

TEGGE ET AL.

Examiner

Dalzid Singh

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12, 25-32 and 41-48 is/are allowed.
- 6) ☒ Claim(s) 13-24 and 33-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 13, 14, 18-22, 24, 33, 34, 38 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Shelton et al (US Pub. No. 2004/0141752).

Regarding claim 13, Shelton et al disclose a modular free space optical (FSO) communications device comprising:

an adaptive optics (AO) module (315) comprising an AO housing and at least one AO device carried thereby (see Fig. 3; it is inherent that the optical device comprise housing in order to provide protection from environmental conditions); and

an optical relay (OR) module (305) comprising an OR housing and a fixed telescopic lens device (310) having a predetermined focal length range carried by said OR housing (see Fig. 3; it is inherent that the optical device comprise housing in order to provide protection from environmental conditions);

said OR housing and said AO housing being connectable and establishing an optical path between said at least one OR device and said at least one AO device when

connected (as shown in Fig. 3, the housing for the optical devices are connected in order to establish optical path; signal received by the optical relay (305) is reflected to the lens (310) and further to the adaptive optic (315)).

Regarding claims 14 and 34, a base module connected to said AO module for providing relative movement between said base module and said OR module for optical beam aiming (AO module (315) provide relative movement; see paragraph [0030]; since adaptive optic changes geometric shape of deformable mirror and not base supporting it, therefore, it is inherent that movement of the adaptive optic is relative to the base supporting it).

Regarding claims 18 and 38, as shown in Fig. 3, Shelton et al show at least one OR device comprises a fixed telescopic lens device (310).

Regarding claim 19, as shown in Fig. 3, wherein said OR housing has an aperture therein (it is inherent that there exist aperture); and further comprising a steering mirror (305) in the optical path between the aperture and said fixed telescopic lens device (310).

Regarding claim 20, as shown in Fig. 3, wherein said AO module further comprises an optical fiber interface (342) in the optical path.

Regarding claim 21, as shown in Fig. 3, wherein said AO module further comprises a beam splitter (330) in the optical path; and a wavefront sensor (325) downstream from said beam splitter and connected to said at least one AO device.

Regarding claims 22 and 39, wherein said at least one AO device comprises a deformable mirror (315) and a controller (320) connected thereto.

Regarding claim 24, it is inherent to provide a seal for sealing a joint between said OR housing and said AO housing in order to prevent dirt or water from entering.

Regarding claim 33, Shelton et al disclose a free space optical (FSO) communications system comprising:

first and second modular FSO devices aligned for optical communication therebetween (see Fig. 2), each comprising an adaptive optics (AO) module (220) comprising an AO housing and at least one AO device carried thereby (see Fig. 3; it is inherent that the optical device comprise housing in order to provide protection from environmental conditions), and an optical relay (OR) module (305) comprising an OR housing and a fixed telescopic lens device (310) having a predetermined focal length range carried by said OR housing (see Fig. 3; it is inherent that the optical device comprise housing in order to provide protection from environmental conditions), said OR housing and said AO housing being connectable and establishing an optical path between said at least one OR device and said at least one AO device when connected (as shown in Fig. 3, the housing for the optical devices are connected in order to establish optical path; signal received by the optical relay (305) is reflected to the lens (310) and further to the adaptive optic (315)).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 15-17, 23, 35-37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shelton et al (US Pub. No. 2004/0141752) in view of Arnold et al (US Patent No. 6,347,001).

Regarding claims 15 and 35, as discussed above, it is inherent to provide base module and housing to the system of Shelton et al. Shelton et al differ from the claimed invention in that Shelton et al do not disclose at least one positioner carried thereby. Arnold et al teach the use of positioner to provide desired position of the optical communication device (see Figs. 3 and 4; col. 5, lines 57-67, col. 6, lines 12-31, col. 7, lines 16-20). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide positioner to the free space communication device of Shelton et al as taught by Arnold et al. One of ordinary skill in the art would have been motivated to do such in order to provide alignment between communication devices.

Regarding claims 16 and 36, wherein said base module further comprises a controller for controlling said at least one positioner (it is well known that there exist controller to provide proper positioning of the optical device).

Regarding claims 17 and 37, the combination teaches control of the positioner and differs from the claimed invention in that the combination does not specifically disclose a remote station interface connected to said controller for permitting remote control of said at least one positioner. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide a remote station interface to control the positioner.

Regarding claims 23 and 40 (in view of the 112 2nd paragraph rejection), Shelton et al disclose free space optical communication and differ from the claimed invention in that Shelton et al do not disclose a camera. Arnold et al teach the use of camera with the free space optical communication system (see col. 6, lines 39-41). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide camera to the system of Shelton et al as taught by Arnold et al. One of ordinary skill in the art would have been motivated to do this in order to provide viewing.

Allowable Subject Matter

5. Claims 1-12, 25-32 and 41-48 are allowed.

Response to Arguments

6. Applicant's arguments filed 18 December 2006 have been fully considered but they are not persuasive.

In the response, applicant indicates that the reference of Shelton et al fails to teach **separate** AO and OR housings for respective AO and OR components. However, the claim does not recite that the AO and OR housings are **separate**. The claims have been interpreted broadly such that the enclosure surrounding the OR component is considered as OR housing and enclosure surrounding the AO component is considered as AO housing.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., separate housing) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DS
March 2, 2007

DALZID SINGH
PRIMARY EXAMINER

Dalzid Singh